

44 (new) An angular velocity sensor for detecting an angular velocity component comprising:

an oscillator having mass;

a sensor casing for accommodating the oscillator therewithin;

a flexible member for connecting the oscillator to the sensor casing so that the oscillator can be moved with respect to the sensor casing; and

capacitance elements including a first electrode provided on a surface of the oscillator and a second electrode provided on a surface of a fixed member fixed to the sensor casing.

45 (new) An angular velocity sensor for detecting an angular velocity component about a Z-axis in an XYZ three-dimensional coordinate system, the sensor comprising:

an oscillator having mass;

a sensor casing for accommodating the oscillator therewithin;

a flexible member for connecting the oscillator to the sensor casing so that the oscillator can be moved with respect to the sensor casing with at least a degree of freedom along an XY-plane in the coordinate system;

excitation capacitance elements for oscillating the

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oscillator in the X-axis direction based on Coulomb force, said excitation capacitance elements including an electrode provided on a surface of the oscillator and an electrode provided on a surface of a fixed member fixed to the sensor casing; and detection capacitance elements for detecting a displacement of the oscillator in a Y-axis direction, said detection capacitance elements including an electrode provided on a surface of the oscillator and an electrode provided on a surface of the fixed member so that an angular velocity component about the Z-axis can be obtained based on the detected displacement.

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46. (new) An angular velocity sensor for detecting an angular velocity component about a Z-axis in an XYZ three-dimensional coordinate system, the sensor comprising: an oscillator having mass; a sensor casing for accommodating the oscillator therewithin;

a flexible member for connecting the oscillator to the sensor casing so that the oscillator can be moved with respect to the sensor casing with at least a degree of freedom along an XY-plane in the coordinate system;

excitation capacitance elements and detection capacitance elements, each including a first electrode provided on a

surface of the oscillator and a second electrode provided on a surface of a fixed member fixed to the sensor casing;

a voltage supplying circuit to apply an a. c. signal to the excitation capacitance elements so that the oscillator is oscillated in the X-axis direction based on Coulomb force; and

a capacitance detecting circuit to detect a capacitance value of the detection capacitance elements so that a displacement of the oscillator in a Y-axis direction is detected and an angular velocity component about the Z-axis can be obtained based on the detected displacement.

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47. (new) An angular velocity sensor according to claim
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3/ wherein the oscillator and the flexible member are made of
1/ silicon.

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48. (new) An angular velocity sensor according to claim
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4/ wherein the oscillator is made of a silicon substrate.

Respectfully submitted,

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